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AUTHOR Rhoden, Bruce
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ABSTRACT

Presented is a Learning Activity Package (LAP) study concerned with the concept of organic evolution. Contained in this LAP are the rationale for studying the concept, a list of objectives (stated in behavioral terms) for the student to accomplish, a list of reading references and audiovisual aids (filmstrips with cassette tapes, teaching tapes), and related laboratory activities. A self-evaluation form is the final item in the package. (PEB)

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LEARNING ACTIVITY PACKAGE

US DEPARTMENT OF HEALTH
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

Organic Evolution

Ninety Six High School
Ninety Six, S.C.

BIOLOGY 103

REVIEWED BY

LAP NUMBER 21

WRITTEN BY Bruce Rhoden

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R A T I O N A L E

Evolution as a concept, unifies many of the concepts that we have learned this year. We will see how genetics, population ecology, reproduction and other areas unite to give support to theories of how species have evolved. It is hoped that after working on this LAP, you will be able to discuss such topics as man's origin with some degree of competency.

BEHAVIORAL OBJECTIVES:

After completing the activities, laboratories and consulting the resources, you will be able to complete the following Objectives. You will be evaluated on a written or oral test under the conditions appropriate to the Objectives.

1. From a given list of definitions, you will choose the one that best defines evolution. (1-A)

2. You will explain the ways in which fossils give support to the theory of evolution. (1-A)

3. You will demonstrate your understanding of the theory of evolution as proposed by Jean Baptiste Lamarch by being able to explain his theory including the "Law of use and disuse" and "Law of inheritance of acquired characteristics." (1-B)

4. You will demonstrate your understanding of Charles Darwin's theory of evolution by describing how each of the following contributed to the formulation of his theory. (1-B)

   a) "The Principles of Geology" by Chalres Lyell
   b) Galápagos
   c) Thomas Malthus
   d) theory of natural selection
   e) Alfred Russel Wallace
   f) Adaptations
   g) The Origin of Species

5. You will be able to site examples which give evidence that natural selection is still influencing modern populations. (1-C)

6. Based upon your knowledge of natural selection, you will be able to explain how so called "primitive" species such as the shark, or horse shoe crab have remained unchanged for millions of years while other species such as man, horse and dogs have undergone much change.

Level II

You will be able to compare the following three explanations for variety found in nature; special creation, spontaneous generation and the theory of transmutation of species.

Level II

You will form a group with other students working on Level II and form a role playing group as directed by the teacher. The topic will be the "Scopes Trial". Each student will be assigned a character role and after researching the role will participate in the trial as that character.

Resources:

Readings:

1. Biological Science- Molecules to Man a) pp. 46-51
   b) pp. 65-77
   c) pp. 80-83
2. Biology Silver Burdett
3. Processes of Organic Evolution by Stebbins
4. "The Origin of Species" ch. 12 A Short History of Science

Visuals:

20. "Evolution and Extinction" Singer F.S. with cassette
21. "Evolution: from Fish to Primate" Singer F. S. with cassette
22. "Evolution: Supporting Evidence" Sinder F. S. with cassette
23. "Evolution Today" F. S. Life
24. "Evolution in the Beginning" Wollensak Teaching Tape

Laboratories:

1. "Adaptation and Selection" pp. 77-80 B. S. C. S. Blue version

Activities:

1. Answer and turn in questions 4, 7-10, 14, 15, 23.

1. Describe how each of the following contributed to Charles Darwin's theory of evolution.

   a) natural selection

   b) adaptation

   c) his visit to the Galápagos

2. Contrast the theories of evolution as proposed by Darwin to that of Lamarch.

TAKE THE PROGRESS TEST.